Mohit Agrawal

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(Curriculum Vitae-August 2024)

PROFESSIONAL APPOINTMENTS

2023- current **Associate Professor**
Department of Applied Geophysics
Indian Institute of Technology (Indian School of Mines)
Dhanbad, India.

2016- 2023 **Assistant Professor**
Department of Applied Geophysics
Indian Institute of Technology (Indian School of Mines)
Dhanbad, India.

EDUCATION

2012 – 2016 **PhD in Seismology**
Baylor University, Waco, Texas, USA
Supervised by Prof. Jay Pulliam (Baylor Univ.) & Prof. Mrinal K. Sen (UT, Austin)
Completion date: March, 2016

Thesis Title: Multi Objective Optimization for Seismology (MOOS) with Applications to the Middle East, the Texas Gulf Coast, and the Rio Grande Rift.
(Funded by National Nuclear Security Administration and W.M. Keck Foundation)

2006 – 2011 **M.Sc. Tech. in Applied Geophysics**
Integrated 5-year course (through IIT-JEE, was among top 1% candidates in the country)
Indian School of Mines, Dhanbad, India.
Dissertation Project: Multifractal analysis of earthquakes in the Haiti region

RESEARCH STUDENTS

PhD Students: **03 (Completed, Full-time)** + 04 (Ongoing, Full Time) + 01(Ongoing, Part Time)

Master's Student: 09 (Ongoing) and 32 **(**Completed)

PhDs GUIDED

1. **Dr. Sachin Kumar** on "Seismic Investigation of the crustal structure beneath the Hispaniola island using receiver function analysis" (2022).

2. **Dr. Mukesh Kumar Das** on "Seismic Imaging of the Lithosphere Beneath Chhotanagpur and Shillong Plateau Using Multiple Data Functional" (2022).

3. **Dr. Ravindra Kumar Gupta** on "Seismic Site Characterization and Site Response Study of Dhanbad City and Nirsa (India)" (2023).

NPTEL/SWAYAM COURSE

Developed a 30-hours NPTEL/SWAYAM course focusing on "Earthquake Seismology." The lectures are available on YouTube playlist (Click here). Around 1173 students were taught this course during July 2023 session.

GIAN COURSE

Taught a two-week GIAN course (May 09-18, 2022) along with Prof. Derek Schutt (Colorado State University) on "Earthquake Seismology" approved and sanctioned by MHRD with a total cost of Rs. 8.52 Lakhs.

SPONSORED RESEARCH PROJECTS

1. ***Title*****:** Analysis, Modelling and Mitigation Methods for Landslides Along Bhalukpong-Tawang Road in Arunachal Pradesh, India. (2024-2027)
   Agency: Anusandhan National Research Foundation (ANRF) **(Serving as Co-PI)**
   Amount Approved**:** Rs. 53,55,720/- (Rupees Fifty Three Lakhs Fifty Five Thousands Seven Hundred and Twenty Only)

2. ***Title***: Multi-Window Cross-Correlation of Ambient Noise: A Novel Approach for Machine Learning Tools in Seismic Hazard Analysis (2022-2025)
   Agency: MATRICS, Science and Engineering Research Board (SERB), DST **(Serving as PI)**
   Amount Approved: Rs. 6,60,000/- (Rupees Six Lakhs Sixty Thousands Only)

3. ***Title***: Joint Inversion of Shear Coupled-PL Waveforms, Receiver Functions and Dispersion Curves (2019-2023)
   Agency: CRG, Science and Engineering Research Board (SERB), DST **(Serving as PI)**
   Amount Approved: Rs. 20,00,000/- (Rupees Twenty Lakhs Only)

4. ***Title*****:** A Seismic Transect Across Northeastern India Beneath the Shillong Plateau. (2016-2019) (Completed)
   Agency: ECR, Science and Engineering Research Board (SERB), DST **(Served as PI)**
   Amount Approved: Rs. 43,05000/- (Rupees Forty Three Lakhs and Five Thousands Only)

5. **Title:** To Augment the Post graduate Teaching and Research Facilities in the Department of Applied Geophysics. (2018-2023)
   Agency: Department of Science and Technology (DST) (Serving as Co-PI)
   Amount Approved: Rs. 1, 98, 00000/- (Rupees One Crore Ninety Eight Lakhs Only)

6. ***Title*****:** Seismic Site Characterization through Joint Modeling of Complementary Data Functionals. (Completed)
   Agency**:** Faculty Reseach Scheme (FRS), India Institute of Technology (Indian School of Mines), Dhanbad. **(Served as PI)**
   Amount Approved: Rs. 25,000,00/- (Rupees Twenty Five Lakhs Only)

7. A two weeks **GIAN Course** on "Global Seismology" approved and sanction by MHRD with a total cost of **Rs. 8.52 Lakhs**. (Completed)

RESEARCH EXPERIENCES

- ***July 25-29, 2022*** **National Center for Seismology, New Delhi**
  Collaborated with NCS scientists and explored advanced research facilities.

- ***May 2017 - July 2017*** **University of Texas at Austin and Baylor University**
  Analyzed CCP stacking of Sp receiver functions for Southeastern USA earthquake data.

- ***January 2012 - May 2016*** **Baylor University, Waco, Texas, USA**
  Developed 1-D seismic velocity models using joint inversion techniques.
  Created a 3D image of the Northeast Caribbean using Ps and Sp receiver functions.
  Innovated a technique for CCP stacked receiver function migration.

- ***July 2010 - May 2011*** **Indian School of Mines, Dhanbad**
  Conducted a multifractal analysis of earthquakes in Haiti.

- ***May 2010 - July 2010*** **Colorado State University, Fort Collins, USA**
  Measured seismic anisotropy in the upper mantle using split SKS waves.

- ***May 2009 - July 2009*** **University of Wyoming, Laramie, USA**
  Modeled 3-D aquifers and monitored carbon sequestration using Petrel software.

- ***May 2008 - July 2008*** **Wadia Institute of Himalayan Geology, Dehradun, India**

Analyzed the depth of the Mohorovicic discontinuity in the Himalayas using SEISAN software.

COURSES TAUGHT

1. Seismic Data Acquisition
2. Seismological Data Analysis
3. Seismic Zonation Hazard
4. Earthquake Seismology
5. Applied Seismology
6. Computational Seismology
7. Earthquake Hazards, Exposure Vulnerability and Risk
8. Introduction to Seismology
9. Earthquake Statistics and Hazards
10. Research Methodology and Statistics
11. Natural Disasters, Mitigation and Management

ADMINISTRATIVE RESPONSIBILITIES

National Level Roles

1. Served as **institute representative** for GATE-JAM 2024.

2. Served as ***domain expert for disaster management for evaluation of Ideas received during MSME IDEA Hackathon 2.0*** (Theme-based) as per the guidelines of MSME Innovative Scheme (Incubation component), Ministry of Micro, Small and Medium Enterprises, India.

3. Serving as **editorial board member** for the Indian Society of Earthquake Technology (ISET) journal since Sept. (2023).

Institutional Level Roles

1. Serving as **coordinator of seismological observatory** at IIT(ISM), Dhanbad since July 2021.
2. Serving **as hostel warden (Topaz)** since July 2021.
3. Served as co-incharge of seismological observatory at IIT(ISM), Dhanbad since July 2016. Have demonstrated the seismological observatory setup and it′s functioning to several visitors at IIT(ISM) since July 2016.
4. Serving as a member of the Institutional Centenary Committee since August 2019.
5. Served as a core member of GATE-JAM institutional committee 2018-19.
6. Worked as a protocol officer in Basant 2017-18.
7. Served as a member of the organizing committee Basant and Industry Institute Interaction 2019-20.

Departmental Level Roles

1. Served as Field In-charge for a 10-day field camp to Baliapur for 2nd-year M.Sc. Tech/4th-year Int. M. Tech. students during December 2023 winter field training.
2. Acted as faculty advisor for the SEG student chapter and the Indian Geophysical Union from 2019 to 2023.
3. Coordinated skill development initiatives for students since July 2021.
4. Member of the National Bureau of Accreditation since July 2020.
5. Faculty Advisor for the Department of Applied Geophysics since July 2017.
6. Member of the Departmental Undergraduate Committee (DUGC) since August 2018.
7. Member of the Departmental Post Graduate Committee (DPGC) since February 2020.
8. Core member of the Departmental Faculty Search Committee (DFSC) since July 2018.
9. Departmental member of the Institution′s Innovation Council (IIC) since 2018.
10. Time-table in-charge for Applied Geophysics from August 2018 to July 2020.
11. Field In-charge for a 15-day field camp to Simultala, Bihar, for 2nd-year M.Sc. Tech/4th-year Int. M. Tech. students during December 2017 winter field training.
12. Seminar/dissertation marks coordinator for the department from July 2018 to July 2020.
13. Member of the Moderation Board for M. Tech. (Earthquake Science and Engineering) for the 2018-19 and 2019-20 sessions.
14. Member of the admission scrutiny committee for the 5-year Integrated M. Tech. program through IIT-JEE.

15. Member of the admission scrutiny committee for the 3-year M.Sc. Tech. program through JAM.
16. Member of the admission scrutiny committee for the 2-year M. Tech. (Earthquake Science and Engineering) program.
17. Member of the admission scrutiny committee for ISM JRF in the Department of Applied Geophysics.
18. Member of the verification of assets (stocks) committee in the Department of Applied Geophysics.
19. Served as tabulator for the department from 2016 to 2019.

PROFESSIONAL AFFILIATIONS

- Life member of Indian Geophysical Union (IGU)
- Life member of Geological Society of India (GSI)
- Life member of Indian Society of Earthquake Technology (ISET)
- Member of the American Geophysical Union (AGU)
- Member of the Seismological Society of America (SSA)
- Member of the European Geophysical Union (EGU).

OTHER SKILLS

Software: MEDBOW, FUNCLAB, Seismic Analysis Code, GMT, JWEED, TAUP, JWEED etc.
Programming: FORTRAN, MATLAB, PYTHON, Bash Shell Scripting, AWK
Operating System: GNU/LINUX, Mac, Windows

INTERESTS

Table Tennis: Proficient table tennis player.
Cricket: All-rounder in Cricket. Can perform well both with ball and bat.
Yoga: Love to do meditation and yoga every day.

AWARDS AND HONORS

1. Recipient of "**MATRICS 2022**" from the Department of Science and Technology, New Delhi.

2. Recipient of "***Core Research Grant 2019***" from the Department of Science and Technology, New Delhi.

3. Awarded with "***Roland Schlich Established Scientist Support***" to attend General Assembly of European Geophysical Union 2019 held in Vienna, Austria to orally present our research titled "Estimating depths to subsurface discontinuities use receiver function's velocity analysis".

4. Recipient of "***Early Career Research Award 2017***" from Department of Science and Technology, New Delhi.

5. Recipient of "**Baylor Research Associate Fellowship**" from Department of Geosciences, Baylor Univ., USA.

6. Awarded 3rd prize in "***Essay Writing Competition for Hindi Pakhwara-2017***" organized by IIT(ISM), Dhanbad.

7. Recipient of "***Baylor's Graduate School Travel Award***" for representing department through poster presentation at AGU 2015 meeting, San Francisco, California.

8. Awarded 2015 "***Student Research grant from Gulf Coast Association of Geological Societies (GCAGS)***" for research proposal titled "Receiver Functions and Surface Wave Dispersion Modeling of the Crust and Upper Mantle beneath Texas' Gulf Coast".
9. "***Travel Award from Geology Department at Baylor***" for poster presentation at SSA 2014 Annual Meeting, Anchorage, Alaska.

10. Recipient of "***Travel Award from Baylor Graduate School***" for representing department through poster presentation at AGU 2014 meeting, San Francisco, California.

11. Recipient of "***Travel Award from Baylor Graduate School***" for representing department through oral presentation at AGU 2013 meeting, San Francisco, California.

12. Awarded "**Merit-cum-Means Scholarship**" every year at Indian School of Mines (2006-2011).

13. Awarded **2nd Prize** for poster presentation competition in **SEG workshop 2009** at Indian School of Mines, Dhanbad, Jharkhand, India.

STUDENT AWARDEES

1. Mr. Hitank Kasaundhan is accepted for prestigious PhD fellowship at Australian National University. (2023-24)
2. Mr. Ravindra Kumar Gupta is accepted as **postdoc** under Dr. P. Anbazhagan in the department of Civil Engineering at **IISc Bangalore**. (2023-24)

3. Mr. Yehya Rasool, awarded with **PhD student fellowship** at IIT Kanpur and IIT Guwahati. Currently, he is pursuing PhD sandwiched between IIT Kanpur and National Yang Ming Chiao Tung University, Taiwan. (2022-23)

4. Dr. Mukesh Kumar Das, accepted for highly prestigious Postdoc under Prof. Jay Pulliam at **Baylor University, Texas, USA.** (2022-23)

5. Dr. Sachin Kumar, accepted for highly prestigious Postdoc under Prof. Jay Pulliam at **Baylor University, Texas, USA.** (2022-23)

6. Ms. Athira Vijayan, accepted for PhD with full fellowship at **Dublin Institute of Advanced Studies, Ireland.** (2022-23)

7. Mr. Rashid Shams, accepted for **PhD with full fellowship** at Univ. of Southern California and Univ. of Nevada. (2022-23)

8. Mr. Anupam Patel, awarded with PhD fellowship for **joint doctorate program** at Scripps Institution of Oceanography and San Diego State University under Prof. Kim Olsen. (2021-22)

9. The **Shastri Research Student Fellowship (SRSF)** has been awarded to Sri Anupam Patel, an integrated M.Tech student of department of Applied Geophysics, on the project entitled "Simulating of Earthquake Ground Motions" with Prof. Hadi Ghofrani Adjunct research professor Western University. (2020-21)
10. Ms. Shikha Sharma awarded with **PhD student fellowship** at IIT Gandhinagar in the department of Earth Sciences. (2019-2020)

11. Ms. Athira Vijayan, awarded with summer research Internship at **Australian National University, Canberra**. (2020)

12. Mr. Anupam Patel, awarded with **MITACS Globalink Summer Research Fellowship** in Canada. (2019)

13. Mr. Bijoy Dutta, awarded with **EAGE Annual Conference Student Travel Grant**. (2019)

14. **ISMAANA Academic Excellence Scholarship Award** to Mr. Anupam Patel. (2018-19)

15. Mr. Yashwant Soni (batch 2018)" has been offered **PhD positions** from three reputed US universities **Baylor University, Louisiana State University and the University of Alaska** at Fairbanks (2020). He joined Baylor in January 2021 for PhD under Prof. Jay Pulliam. (2018)

ORGANISED TRAINING, COURSES AND OUTREACH PROGRAMS

1. **A two weeks GIAN Course on "Global Seismology" approved and sanction by MHRD with a total cost of Rs. 8.52 Lakhs.**

- Coordinator, course on "Global Seismology", May 09-18, 2022

Speakers: Prof. Derek Schutt, Colorado State University, USA.
Prof. Mohit Agrawal, IIT(ISM), Dhanbad, India.

2. An outreach program on "**Earthquake Information and Awareness Program**" was organised in the premises of Seismological Observatory on **May 19, 2022** under the **"Scientific Social Responsibility (SSR)"** scheme of DST(SERB) (Project No. CRG/2019/000208). The program is aimed to ignite the scientific temper among underprivileged children of the nearby areas.

3. Developed a **30-hour NPTEL/SWAYAM** course focusing on "Earthquake Seismology."

ORGANIZED GUEST LECTURES/WEBINARS

1. Webinar on "**Evaluating the Role of Sedimentary Basin Geometry on Earthquake Ground Motions with Hybrid Earth Models**" delivered by "Prof. Patricia Persaud" from Louisiana State University on Feb. 11, 2022.

2. Webinar on "**Next-generation crustal stress maps and their utility for understanding induced seismicity and active tectonics**" delivered by **Dr. Jens-Erik Lund Snee, Mendenhall Research Fellow, USGS (USA)** on Jan 18, 2022.

3. Webinar on "**Stress layering, fault slip and hydraulic fracture propagation**" delivered by "Dr. Ankush Singh" from Stanford University on Dec. 06, 2021.

4. Webinar on "**Two-step velocity inversion using trans-dimensional tomography and elastic FWI**" delivered by "Dr. Reetam Biswas" from Univ. of Texas at Austin on Nov. 19, 2021.

5. Webinar on "**Geophysical Investigations of the Mackenzie Mountains, Canada**" delivered by "Prof. Derek Schutt" from Colorado State University on Oct 27, 2021.

6. Webinar on "**Viscoelastic stress relaxation approach in estimating continuous least principal stress magnitudes at depth in sedimentary rocks**" delivered by "Mr. Partha Pratim Mondal" from Curtin University on Oct 05, 2021.

7. Professor Robert Jay Pulliam from Baylor University USA, delivered Institute Lecture on "***Comparing and Contrasting the Gulf of Mexico & the Bay of Bengal, with Potential Topics for US-India Research Collaborations***" on September 12, 2019.

8. Professor Robert Jay Pulliam from Baylor University USA, delivered invited talk on "**An automated approach to seismic interferometry with ambient noise**" on August 29, 2019.

9. Organized an invited talk on "**Rapid Solutions of Trans-dimensional Inverse Problems**" by Prof. Mrinal K. Sen, Jackson Chair of Geosciences, Univ. of Texas at Austin on June 25, 2018.

10. Organized an invited talk on "**Rapid Solutions of Trans-dimensional Inverse Problems**" by Prof. Mrinal K. Sen, Jackson Chair of Geosciences, Univ. of Texas at Austin on June 25, 2018.

INVITED TALKS AND ORAL PRESENTATIONS

1. Delivered an **oral talk** on "Seismic Ambient Surface Wave Tomography for Crustal Structure in Northeastern India" for national conference on "Geosciences for Sustainable World" at Banaras Hindu University. (March, 2024)

2. Delivered an **invited lecture o**n "Multi-objective optimization in seismology with application to northeast India" for International conference on "Exploring the Complexities of Physical and Earth System Dynamics through Modelling and Data Analysis" at Pachhunga University College, Mizoram. (March, 2024).

MISCELLANEOUS

- **Fulbright-Nehru Faculty Coordinator** to research collaborate with Prof. Jay Pulliam, Fulbright-Nehru Distinguish Chair Professor, in-house at IIT(ISM) for a period of 4 months (July − November, 2019).
- Developed seismological network of broadband seismic station over Shillong Plateau (2018-2020).

- Deploying a linear transect of fourteen broadband seismic stations spanning between Ranchi to Bangladesh border (2020-current).

PUBLICATIONS

Published

1. Monika, **Agrawal, M.***, Tilara, C.*, 2024. Seismic Hazard Assessment of Mathura City (India): A Deterministic Approach. J Earth Syst Sci. (Accepted). (Impact factor: 1.3, Citations: 0)

2. Kasaundhan, H., Singh, D.K., **Agrawal, M**.*, 2024. Deciphering the crustal anisotropy and mantle flow beneath the Indo-Burma ranges from the harmonic decomposition of the receiver functions. Physics of the Earth and Planetary Interiors 107183. https://doi.org/10.1016/j.pepi.2024.107183 (Impact factor: 2.4, Citations: 0)

3. Shams, R., **Agrawal, M**.*, 2024. Nonlinear Seismic Site Response Analysis of Shallow Sites in Dhanbad City, Jharkhand, India. Geotech Geol Eng. https://doi.org/10.1007/s10706-024-02742-3 (Impact factor: 1.7, Citations: 0).

4. Gupta, R.K., **Agrawal, M***., Shams, R., Pal, S.K., 2023b. Seismic site response study of Dhanbad city (India) using equivalent linear analysis complemented by horizontal-to-vertical spectral ratios. Environ Earth Sci 82, 291. https://doi.org/10.1007/s12665-023-10985-1 (Impact factor: 2.8, Citations: 05)

5. Gupta, R.K., **Agrawal, M***., Pulliam, J., 2023a. Joint Modelling and Uncertainty Estimation for Site Characterization of Dhanbad City (India) Using Global Optimization. Pure Appl. Geophys. 180, 3947−3969. https://doi.org/10.1007/s00024-023-03358-z (Impact factor: 1.9, Citations: 0)

6. Kumar Das, M., **Agrawal, M***., Patel, A., 2023. A seismic investigation of lithospheric velocities beneath the Chhotanagpur Plateau (India) using waveform modeling of shear-coupled PL waves and other phases. Journal of Asian Earth Sciences 256, 105798. https://doi.org/10.1016/j.jseaes.2023.105798 (Impact factor: 2.7, Citations: 0)

7. Kumar, S., **Agrawal, M**.*, Pulliam, J., 2023. Modeling Seismic Anisotropy Beneath the Island of Hispaniola via the Harmonic Decomposition of Receiver Functions. Geochem Geophys Geosyst 24, e2022GC010773. https://doi.org/10.1029/2022GC010773 (Impact factor: 2.9, Citations: 0)

8. Shams, R., **Agrawal, M**.*, 2023. Kappa model and Coda-Q for Eastern Chotanagpur Plateau region (India). Nat Hazards 117, 519−553. https://doi.org/10.1007/s11069-023-05871-9 (Impact factor: 3.3, Citations: 01)

9. Shams, R., **Agrawal, M**.*, Gupta, R.K., 2022. Probabilistic seismic hazard assessment of Kishanganj, Bihar, India. J Earth Syst Sci 131, 257. https://doi.org/10.1007/s12040-022-01999-7 (Impact factor: 1.3, Citations: 02)

10. Vijayan, A., **Agrawal, M**.*, Gupta, R.K., 2022. Seismic Site Characterization Using Ambient Noise and Earthquake HVSR in the Easternmost Part of Shillong Plateau, India. J Geol Soc India 98, 471−478. https://doi.org/10.1007/s12594-022-2004-3 (Impact factor: 1.2, Citations: 3)

11. Bhatia, M., Rajesh, R., Ravi Kumar, **Agrawal**, **M.,** 2022. Microseismic source distribution inferred from noise recordings at the Gujarat Seismic Network, India. J Earth Syst Sci 131, 23. https://doi.org/10.1007/s12040-021-01779-9 (Impact factor: 1.3, Citations: 02)

12. Gupta, R.K., **Agrawal, M**.*, Pal, S.K., Das, M.K., 2021. Seismic site characterization and site response

study of Nirsa (India). Nat Hazards 108, 2033−2057. https://doi.org/10.1007/s11069-021-04767-w (Impact factor: 3.3, Citations: 17)

13. **Agrawal, M**.*, Das, M.K., Kumar, S., Pulliam, J., 2021. Mapping lithospheric seismic structure beneath the Shillong plateau (India) and adjoining regions by jointly fitting receiver functions and surface wave dispersion. Geophysical Journal International 226, 1645−1675. https://doi.org/10.1093/gji/ggab146 (Impact factor: 2.8, Citations: 06)

14. Kumar, S., **Agrawal, M**.*, Pulliam, J., Rivera, E.P., Huérfano, V.A., 2020. Crustal thickness and bulk Poisson ratios in the Dominican Republic from receiver function analysis. Tectonophysics 775, 228308. https://doi.org/10.1016/j.tecto.2019.228308 (Impact factor: 2.7, Citations: 08)

15. Gupta, R.K., **Agrawal, M**.*, Pal, S.K., Kumar, R., Srivastava, S., 2019. Site characterization through combined analysis of seismic and electrical resistivity data at a site of Dhanbad, Jharkhand, India. Environ Earth Sci 78, 226. https://doi.org/10.1007/s12665-019-8231-2 (Impact factor: 2.8, Citations: 35)

16. Das, M.K., **Agrawal, M**.*, Gupta, R.K., Gautam, J.L., 2019. Lithospheric seismic structure beneath two broadband station sites of the eastern part of Chhotanagpur Plateau: New constraints from receiver functions and dispersion curves. Physics of the Earth and Planetary Interiors 287, 51−64. https://doi.org/10.1016/j.pepi.2019.01.004 (Impact factor: 2.4, Citations: 14)

17. **Agrawal, M**.*, Pulliam, J., Sen, M.K., Grand, S.P., 2019. Lithospheric Removal Beneath the Eastern Flank of the Rio Grande Rift From Receiver Function Velocity Analysis. Geochem Geophys Geosyst 20, 974−991. https://doi.org/10.1029/2018GC007911 (Impact factor: 2.9, Citations: 03)

18. **Agrawal, M**.*, Pulliam, J., Sen, M.K., Gurrola, H., 2015b. Lithospheric structure of the Texas-Gulf of Mexico passive margin from surface wave dispersion and migrated Ps receiver functions. Geochem Geophys Geosyst 16, 2221−2239. https://doi.org/10.1002/2015GC005803 (Impact factor: 2.4, Citations: 14)

19. **Agrawal, M**.*, Pulliam, J., Sen, M.K., Dutta, U., Pasyanos, M.E., Mellors, R., 2015a. Crustal and uppermost mantle structure in the Middle East: assessing constraints provided by jointly modelling Ps and Sp receiver functions and Rayleigh wave group velocity dispersion curves. Geophysical Journal International 201, 783−810. https://doi.org/10.1093/gji/ggv050 (Impact factor: 2.8, Citations: 20)

CONFERENCE PAPERS

1. Yehya Rasool and **Agrawal, M*** (2024). A comprehensive comparative study on various parameters by using Microtremor data. Proceedings of the Indian Geotechnical Conference 2022 Volume 1, Springer Nature Singapore.

2. Gupta, R. K., **M. Agrawal** and S. K. Pal (2021), Inversion of HVSR Curves using Monte-Carlo Global Optimization Technique for Seismic Site Characterization, *3rd Asia Pacific Meeting on Near Surface Geoscience & Engineering at Chiang Mai (Thailand), 10.3997/2214-4609.202071043*.

3. **Agrawal, M**., J. Pulliam, M.K. Sen, U. Dutta, R. Ghosh, F. Sepulveda, R. Mellors, and M. Pasyanos (2012), Joint, non-linear modeling of receiver functions, surface wave dispersion and waveforms with formal assessments of constraints. *Monitoring Research Review, Albuquerque, New Mexico. https://digital.library.unt.edu/ark:/67531/metadc829526/m2/1/high_res_d/1050499.pdf*

4. Gupta, R. K., Saurabh, S. K. Pal*, **M. Agrawal** and M. K. Das (2018), Shear Wave Velocity by Joint Inversion of Horizontal-to-Vertical Spectral Ratios and Dispersion Curves, Indian Society of Engineering Geology, 14-1, 13.

5. Mallick, S.*, P.K. Mukhopadhyay, A. Dwivedi, and **M. Agrawal** (2009). A cost-effective monitoring strategy for carbon-sequestrated deep saline aquifer. *Geohorizon, http://www.spgindia.org/geodec_09/malick.pdf.*

CONFERENCE PRESENTATIONS AND PUBLISHED ABSTRACTS

1. Hitank Kasaundhan, Dhiraj Kumar Singh, and **Mohit Agrawal** (2023), Seismic Investigation of the Lithospheric Anisotropy beneath the Indo-Burma Ranges from Harmonic Decomposition of Receiver Functions, National Conference on Geophysical Advances-Natural Resource Exploration, Energy Security and Geohazards (CGA 2023), Indian Institute of Technology (Indian School of Mines), Dhanbad, India.

2. Das, M. K., **Agrawal, M**., & Patel, A. (2023), Crust and upper mantle velocity structure beneath the Chhotanagpur Plateau, India using waveform modeling of Shear-Coupled PL waves and other phases, Seismological Society of America (SSA), San Juan, Puerto Rico, USA.

3. Das, M. K., **Agrawal, M**., Sachin, K., & Pulliam, J. (2023), A seismic investigation of lithospheric seismic structure beneath the Shillong Plateau and adjoining regions in N-E India by jointly fitting of receiver functions and dispersion curves, Seismological Society of America (SSA), San Juan, Puerto Rico, USA.

4. Singh, D. K., **M. Agrawal**, O.P. Mishra and M. K. Sen (2023), Constraining Shear Wave Velocity Structure in Northeastern Indian Region using Ambient Noise Tomography, CGA conference, Indian Institute of Technology (Indian School of Mines), Dhanbad, India.

5. Kasaundhan, H. and **M. Agrawal** (2023), Seismic investigation of the Lithospheric Anisotropy beneath the Indo-Burma Ranges from Harmonic Decomposition of Receiver Functions, CGA conference, Indian Institute of Technology (Indian School of Mines), Dhanbad, India.

6. Gupta, R.K., **M. Agrawal** and S.K. Pal (2022), Recent Advances in Earth Sciences with Special Emphasis - Natural Hazard: Joint Modelling of Horizontal-to-Vertical Spectral Ratios and Dispersion Curves for Seismic Site Characterization of Dhanbad City (India), North-Eastern Hill University (NEHU), Shillong.

7. Kumar, S., Pulliam, J., and **Agrawal, M.** (2022), Anisotropic layering beneath Hispaniola Island from harmonic decomposition modeling of receiver functions, American Geophysical Union (AGU) fall meeting 2022, Chicago, IL, USA.

8. Shams, R. and **M. Agrawal** (2022), Recent Advances in Earth Sciences with Special Emphasis - Natural Hazard: 1D Non-Linear Seismic Ground Response Analysis for Various Locations in Dhanbad City, Jharkhand, India, North-Eastern Hill University (NEHU), Shillong.

9. Shams, R. and **M. Agrawal** (2022), Recent Advances in Earth Sciences with Special Emphasis - Natural Hazard: Seismic Hazard Analysis of Kishanganj (India) Using Probabilistic Approach, North-Eastern Hill University (NEHU), Shillong.

10. Rasool, Y. and **M. Agrawal** (2022), Recent Advances in Earth Sciences with Special Emphasis - Natural Hazard: Evaluation of Seismic Hazard for Kishanganj, Bihar: Deterministic Approach and Comparison of Seismic Declustering Methods for Bihar-Nepal Himalayan Region (India), North-Eastern Hill University (NEHU), Shillong.

11. Shams, R. and **M. Agrawal** (2021), Frontiers of Geosciences Research Conference (FGRC) 2021: Analysis of Seismic Attenuation Characteristics of Chhotanagpur Plateau, India, Physical Research Laboratory, Ahmedabad.

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